Remarks

Applicants wish to extend their appreciation to Examiner Wyszomierski for his efforts to further the prosecution of this application. The claims are now under final rejection, but the issues have been clarified considerably. Applicants believe that further discussion, and perhaps further amendment, may eliminate the remaining two rejections. These rejections are both under 35 U.S.C. § 103(a), over JP 2000-86227 (*"JP '227"*) and Glumac et al. U.S. 5,876,683 (*"Glumac"*). As Applicants understand the crux of these rejections, they are based on the dual premises that first, the "multi-element diffusion flame burner" limitation has not been considered as a claim limitation; and second, the point at which the combusting gas and combustible gas is mixed is not stated in the claim.

While the *JP '227* and *Glumac* references are quite different, due to the basis of the rejections, they may be discussed together, in part. *JP '227* discloses the traditional method of producing particulate SiO_2 from a volatile silicon compound such as $SiCl_4$, SiH_4, other halosilanes, or even alkylhalosilanes. Actually, the point of novelty of the *JP '227* reference cannot be envisioned from the abstract, since this method of preparation of fumed or pyrogenic silica has been used for at least 40 years. No description of the burner is given, and it is assumed that a conventional single element burner is employed.

Glumac mixes all of precursor source, combustion gas, and carrier gas prior to entry into the burner, which may be thought of as the combination of elements 16, 17, and 23 (Figure 1), or may be viewed only as 17, 23, since 16 is a valve. At any rate, it is clear that all the gases are premixed prior to entering the burner.

The claims recite the use of a multi-element diffusion flame burner. It is the use of this burner which provides the unexpected results obtained by Applicants, results which cannot be duplicated in single flame burners or with premixed gases. Those involved in combustion syntheses have used numerous types of burners, but do not achieve the results achieved by Applicants. *See, e.g.* pages 1, lines 12 - 23 and page 3, of the present invention.

The multi-element diffusion burner is not a mere apparatus limitation, but instead defines the location of fuel feed passages, oxidant feed passages, and precursor feed passages in a concise manner. While elements from the specification are not read into the claims, nor are the claims read in isolation from the specification. A multi-element diffusion burner is described in the specification (see, page 8 last paragraph to the bottom of page 11), and illustrated in Figures 1 and 2. Such a burner has a geometric array of openings on the top surface 12 thereof, each opening being a separate fuel or oxidant or precursor supply. It is apparent from the drawing that prior to reaching the face 12 of the burner, there is no premixing of oxidant and fuel, and in fact mixing only occurs after these gases have left the burner, below the flame front generated by their combustion. If the Examiner believes that addition of language to this effect would place the claims in condition for allowance, Applicants suggest adding "such that the combusting gas and combustible gas do not mix until after leaving the burner" following the word "passageways" in the third line of subparagraph b) of claim 1, and authorize the Examiner to make such an amendment.

It should be clear that neither the undisclosed but assumedly single orifice burner of *JP '227* nor the premixed burner of *Glumac* can produce a flame with the horizontal uniformity shown in Figure 3 which is typical of the burner employed by Applicants' process, but which is totally different from other burners. Moreover, the conclusion that Applicants do not state where their combustible and combusting gases are mixed is incorrect, because they have so stated by their use of the multi-element diffusion burner, which itself defines where this occurs.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,

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